**Knowledge Judgements and Cognitive Psychology**

Certain well-known intuitions suggest that, contrary to traditional thinking in epistemology, knowledge judgements are *shifty*—i.e., that judgements about whether somebody knows something can shift in stringency with context. Some take these intuitions to show that knowledge judgements *are* shifty.[[1]](#footnote-1) Jennifer Nagel (2008, 2010a&b) and Mikkel Gerken (2012, 2013, 2017) have argued, however, that closer attention to the psychological processes which underlie knowledge judgements shows how traditional non-shifty thinking can be preserved. They each defend *moderate classical invariantism* (MCI)—the view that the epistemic standard for knowing is always moderate—by drawing on recent work in cognitive psychology.

Both attempts to defend MCI face serious obstacles though: Gerken’s defense risks incoherence, and Nagel’s fails to adequately explain the shifty intuitions. This isn’t to say that findings in psychology *cannot* be exploited to vindicate MCI. But it does show, I contend, that the most prominent proposals to date along these lines don’t succeed.

§1 of this paper describes the shifty intuitions in question. §§2-3 focus on Gerken’s response to them, and §4 deals with Nagel’s response. Conclusions are drawn in §5.

**§1 The Semantic Intuitions**

Classical invariantists argue that the epistemic standard for knowledge is always the same: moderate and high according to MCI and sceptical classical invariantism, respectively. Classical invariantism is hard to square with well-known intuitions about certain case-pairs. The pairs are constructed so that a subject’s strength of epistemic position with respect to a proposition, p, is the same (namely, moderate) in both cases. A subject’s “strength of epistemic position” includes whether her belief that p is true, the strength of her evidence, the reliability of the process that led to her belief, and whether or not her belief is Gettiered etc. I.e., it concerns *truth-relevant* factors. What *differs* between the cases is how much is at stake, whether certain error-possibilities have been considered and whatever else follows from these differences. These are *non-truth-relevant factors*—they don’t affect how likely it is that p is true. If classical invariantism is correct, the subject should know in both cases or in neither since her strength of epistemic position doesn’t vary. But there appears to be a fairly robust tendency to judge that the subject knows in only one of them.[[2]](#footnote-2) *Prima facie*, this suggests that the standard for knowledge is shifty.

One famous case-pair stems from DeRose (1992).[[3]](#footnote-3) In both cases, Hannah and Sarah are driving home Friday afternoon and stop by the bank to deposit Hannah’s paycheck. Noticing long queues, they consider coming back the next day. In one case, *LOW STAKES*, it doesn’t matter when the check is deposited, but in the other, *HIGH STAKES*, it’s very important that it gets deposited before Monday. In LOW STAKES, Sarah says that the bank might not be open Saturday as many aren’t. But Hannah says she *knows* it will be open since she stopped at the bank on a Saturday recently and it was open until noon. In HIGH STAKES, Sarah then mentions the enormous fine they’ll incur if the check isn’t deposited before Monday and points out that banks sometimes change their hours. Remaining as confident as she was in LOW STAKES that the bank will be open Saturday, Hannah concedes she *doesn’t* *know* it will be open Saturday after all.

Across this pair, the truth-relevant factors concerning Hannah’s belief that the bank will be open apparently stay fixed. Although classical invariantism implies that Hannah knows in both cases or in neither, intuitively this doesn’t seem right. Many would judge that Hannah’s claim to know in LOW STAKES is correct and that her claim not to know in HIGH STAKES is also correct. Since this case-pair is by no means unique, it seems that our ordinary knowledge judgements fail to align with classical invariantism across a wide range of examples.[[4]](#footnote-4)

**§2 Epistemic Focal Bias**

Mikkel Gerken (2012, 2013 & 2017) defends MCI using the idea of *focal bias*. This is a hypothesis which cognitive psychologists posit to explain our tendency to make quick judgements in various contexts by processing only the information currently *in focus*, ignoring other information which may be relevant. Gerken claims that the influence of this heuristic may help explain-away knowledge judgements which conflict with MCI. If such judgements can be understood to fall under the umbrella of a familiar kind of focal-bias-based error, then their threat to MCI will be neutralized.

Gerken’s *epistemic focal bias* approach posits two principles.

*Principle of Contextual Salience*: Normally, for an agent, A, q is a contextually salient alternative to S’s knowledge that p iff A processes q as an epistemically relevant alternative to S’s knowledge that p. (2013, p.50)

*Principle of Epistemic Satisficing*: Normally, an agent, A, forms epistemic judgments on the basis of a *prima facie* reason that is arrived at by processing only a limited part of the evidence available to A. (2013, p.51)

The former principle makes use of the relevant alternatives theory of knowledge (due to Dretske (1970) and Goldman (1976)). On that theory, for a subject to know that p, she must be able to rule out the *relevant* alternatives to p but needn’t be able to rule out the *irrelevant* alternatives.

These principles can be used to explain our judgements about the bank cases as follows (2012, 4.3a and 4.3b). In LOW STAKES, the possibility that the bank is closed on Saturdays is made salient. The Principle of Contextual Salience predicts that we’ll process this possibility as a relevant alternative to Hannah’s belief that the bank will be open. We have the information that Hannah visited the bank on Saturday recently. That gives us a *prima facie* reason to think she *does* know—she can *rule out* that alternative. The Principle of Epistemic Satisficing predicts that we’ll stop there and conclude on this basis that Hannah knows the bank will be open Saturday.

In HIGH STAKES, the possibility that the bank may have recently changed its opening hours is made salient. The Principle of Contextual Salience predicts that we’ll process this as a relevant alternative (mistakenly, by the lights of MCI). Since Hannah hasn’t made any checks against this possibility, we now have a *prima facie* reason to think that she *doesn’t* know the bank will be open—she can’t rule out that possibility. The Principle of Epistemic Satisficing predicts that we’ll stop there and judge that Hannah does not know. Thus, the principles predict the intuitive judgements correctly. Gerken describes our judgement about HIGH STAKES as a *salience effect* resulting in a *false negative*—we falsely reach the negative judgement that Hannah doesn’t know having processed only the salient information.

Gerken’s explanations are plausible in the sense that the psychological mechanisms posited are akin to those psychologists posit elsewhere to explain relatively unreflective judgements.[[5]](#footnote-5) However, as Gerken is aware, focal bias will not fully explain our intuitions. The intuitions to be explained seem fairly robust. Not only do we judge counter to MCI when making relatively unreflective decisions, but we often continue to do so even when considering the matter carefully. Yet when we are made accountable and asked to justify our judgements, we rely less on heuristics, and so errors resulting from their influence tend to get corrected. Hence, Gerken owes an explanation why our “faulty” judgements persist in such contexts.

Gerken introduces a number of additional hypotheses to give an MCI-friendly explanation. Firstly, he points out that even when we are thinking carefully, we may still judge incorrectly if we lack or fail to employ appropriate *mindware*. “Mindware” refers to “the rules, procedures, and strategies that can be retrieved by the analytic system and used to substitute for the heuristic response” ((Gerken 2012, p.164) quoted from Stanovich, West and Toplak, 2011, p. 366.) I.e., it refers to strategies that can be put to use when we stop making unreflective judgements and start thinking carefully. Even people of high IQ thinking very carefully may fail to solve a problem if they have not mastered suitable rules and strategies that finding the solution requires.[[6]](#footnote-6)

Gerken suggests that in cases like HIGH STAKES, reaching the correct (by the lights of MCI) verdict involves supplying the background information that the salient alternative (i.e., the bank changing its hours) is unlikely and so epistemically irrelevant. Epistemic focal bias explains why this doesn’t happen when judging unreflectively—the information isn’t made salient and so isn’t processed at all. Regarding reflective judgements, Gerken writes:

…the participants may not have sufficient mastery of the distinction between epistemically relevant and salient alternatives to apply it to certain cases…

Assume, for example, that the distinction between epistemically relevant and salient alternatives is commonly appreciated…although it is not fully conceptualized. If so, the problem is not so much a total *lack* of mindware as a failure to deploy it in overriding a process that exhibits a focal bias. (2012, p.164)

In other words, reaching the correct verdict requires bringing to bear the distinction between salient alternatives and relevant alternatives. While we may appreciate that distinction implicitly, perhaps because we have not fully mastered the distinction, we fail to make use of it when judging about Hannah. Thus, even when we are thinking carefully, we still fail to correct the intuitive verdict.[[7]](#footnote-7)

Second, Gerken points to the effect of “cognitive illusions”. A study involving the “Linda Conjunction Problem” (Tverky and Kahneman, 1982) illustrates the idea. In this study subjects were asked to read the following:

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student she was deeply concerned with issues of discrimination and social justice, and she also participated in anti-nuclear demonstrations. (Gerken 2012, p.146)

Nearly nine out of ten subjects subsequently ranked the statement “Linda is a bank teller” as *less* probable than the statement “Linda is a bank teller and is active in the feminist movement”, thereby violating the conjunction rule of probability calculus. Most statistically informed participants recognized the mistake when presented with the rule. However, the illusion often persisted in them that the conjunction was more likely. As Gould puts it, “I know the [conjunction] is least probable, yet a little homunculus in my head continues to jump up and down, shouting at me “but she can’t be a bank teller; read the description””. (Gerken 2012, p.147)

In the case of epistemic judgements, Gerken writes:

…as in the case of other cognitive illusions, some of the phenomenal properties that underlie the (quasi-)intuitive judgments may persist—even for an ascriber who upon reflection has reversed her initial judgment. As a non-skeptical strict invariantist, it can still *seem* wrong to me to assent to ‘S knows that p’ in the face of a salient alternative that I regard as epistemically irrelevant. (Gerken, p.162-3)

Gerken’s claim is that in HIGH STAKES an effect of epistemic focal bias may be to produce a robust illusion that Hannah does not know, one that persists even for defenders of MCI who are inclined to reverse that judgement when thinking carefully.

Thirdly, Gerken argues that our failure to reverse the intuitive judgements may be further compounded by the lack of any epistemic “gold standard” (2012, p.165). Returning to the previous example, in probability theory, the conjunction rule is universally agreed upon. So, those who have studied probability theory will be confident that they have made a mistake despite the cognitive illusion. In contrast, there is no widely agreed upon rule by which to decide whether Hannah knows in HIGH STAKES. This is highly disputed even among epistemologists. Hence, we shouldn’t expect even trained epistemologists to spot the mistake easily.

As with the epistemic focal bias hypothesis, these additional hypotheses invoke kinds of psychological explanation used by cognitive psychologists in other areas. So, we can agree that they are not *psychologically* implausible. However, it doesn’t follow that we have here a *philosophically plausible* defense of MCI.

**§3 The Problem**

Given the shifty intuitions, it seems that MCI’s semantic theory does not match up with how competent speakers apply “know” across a wide range of mundane cases. DeRose (2009) compares the predicament of MCI with that of two clearly crazy semantic theories: the theory that “physician” correctly applies to a person only if she is able to cure any illness instantaneously and the theory that “bachelor” only applies to married males. Like MCI, these crazed theories conflict with our semantic intuitions extensively. In ordinary cases in which we would regard “She’s a physician” as true, the former theory implies that we would be wrong because the person concerned cannot cure all diseases instantaneously. And in ordinary cases in which we would regard “He’s a bachelor” as true, the latter theory implies we would be wrong because the person concerned isn’t married!

DeRose asks,

[I]n virtue of what is our language in fact such that these strange theories are not true of it?...with respect to the strange theory concerning ‘physician’, it seems eminently reasonable to suppose that such facts as these, regarding our use, in thought and speech, of the term ‘physician’, are centrally involved: that we take to be physicians many licensed practitioners of medicine who don’t satisfy the demanding requirement alleged; that we seriously describe these people as being ‘physicians’; that we don’t deny that these people are ‘physicians’; that claims to the effect that these people are ‘physicians’ intuitively strike us as true; etc. It’s no doubt largely in virtue of such facts as these that the traditional view, rather than the bizarre conjecture we are considering, is true of our language: The correctness of the traditional view largely consists in such facts. And these facts also seem to provide us with our best reasons or evidence for accepting the traditional, rather than the strange, hypothesis regarding the semantics of ‘physician’.(2009, p.67)

The point DeRose impresses upon us, then, is that when it comes to deciding the correct semantics for “know”, we should be guided by how ordinary, competent speakers actually apply the term—at least, in mundane, familiar cases in which they have strong intuitions. For DeRose, whatever the correct semantics is, the reason *it*, rather than some other account, is correct “largely consists” in the fact that it validates the semantic intuitions of ordinary speakers in such cases. Since the intuitions of ordinary speakers with respect to “know” apparently conflict with MCI’s semantics across a wide range of such cases, that semantics looks a good deal like another crazed theory.

As DeRose points out (2009: 153), however, the fact that speakers misapply a term by the lights of one’s preferred semantics, does not always tell against the semantics. The misapplication could be due to some innocuous factual error. We can imagine speakers regularly applying “physician” to people mischievously dressed-up as doctors who in fact know nothing about medicine. Here, the mismatch between speakers’ application and what the standard semantics would say doesn’t tell against the standard semantics. The mismatch can readily be explained-away by pointing to the innocuous factual error: the ordinary speakers do mean *physician* as understood by the traditional semantics, they just wrongly (but understandably) think that the mischievous people are medical practitioners.

Now, one might think that Gerken’s defense of MCI achieves something similar in the case of “know”. Gerken provides psychologically plausible hypotheses why ordinary speakers would make systematically erroneous knowledge judgements under the influence of a focal bias. This distinguishes the case of MCI from DeRose’s crazed semantic theories of “physician” and “bachelor”. When we ascribe “physician” to somebody who is unable to cure all diseases instantaneously, there is no plausible hypothesis to square this “error” with the bizarre semantic theory. It’s not plausible that we misapply the word because we mistakenly believe such people *can* cure all diseases instantaneously, for example. In contrast, Gerken seems to show that MCI *can* offer a plausible explanation of our “mistaken” knowledge judgements: given the heuristics used in our cognitive processing, the “errors” are not surprising.

However, the fact that a preferred semantics can still be correct even when speakers apply the term in question differently (due to some kind of innocuous error) brings DeRose’s question of *what makes a given semantics true (or false) of our language* into focus. We’ve said that the judgements of ordinary speakers can deviate from the semantics perhaps extensively if there are errors which explain why. So, what makes the semantics true of the language in such cases cannot be that speakers’ application of the term conforms to the semantics—by hypothesis, it doesn’t conform in such cases. What does make the semantics true of the language, then? This isn’t an issue that Gerken addresses. But it is where the real difficulty for his approach lies.

To appreciate the problem, it is useful to consider an earlier attempt to defend MCI via psychological bias. Williamson (2005, p.226) appeals to *the availability heuristic*.[[8]](#footnote-8) This is a heuristic which we appear to rely on when unreflectively judging how probable something is or how frequently something occurs. For instance, when judging how common a name is, we apparently rely on a feeling of cognitive fluidity. The more readily available to consciousness the name feels, the more common we judge it to be.[[9]](#footnote-9) In the case of knowledge judgements, Williamson’s suggestion seems to be that making salient high stakes and/or low-risk error-possibilities increases the cognitive fluidity of certain error scenarios leading us to *overestimate* their likelihood. For instance, in HIGH STAKES, we might mistakenly judge Hannah not to know that the bank will be open because, under the influence of the availability heuristic, we overestimate the risk of error posed by the possibility *made salient in the example* of the bank changing its hours.

What’s important about this strategy for our purposes is not the bias hypothesis used to explain the error but the way it can explain *what makes MCI true*. With the hypothesis about the availability heuristic in place, it can be claimed that, contrary to appearances, we *do* impose a consistently moderate standard in our knowledge judgements. Notice that if the risk of the bank changing its hours *were* high, that would diminish the strength of Hannah’s epistemic position, and she would fail to know the bank will be open *even by moderate standards*. Thus, on this view, our judgement actually conforms to what MCI would dictate if the risks were as we (according to the hypothesis) mistakenly take them to be under the influence of the availability heuristic.

On this approach, then, what makes MCI true of our language, it may be urged, is that *MCI is encoded* (as it were) *in our linguistic dispositions*—i.e., that we apply “know” in accordance with the moderate standard of MCI. On this view, we apply the moderate standard all right in HIGH STAKES but end up judging incorrectly by overestimating the error risk. We might assert, then, that, generally speaking, a mismatch between our intuitive judgements and our preferred semantics doesn’t make the semantics crazy *as long as the semantics is reflected in our linguistic dispositions and the mismatch results from extraneous mistakes (such as biased estimation of risk)*.

Unfortunately, Williamson’s approach still runs aground because it is in fact not plausible that our shifty intuitions stem from the availability bias. Nagel (2010) has argued that either the availability hypothesis does not yield the predictions defenders of MCI need or it does so only by operating in a way that there is no empirical basis to think it does operate. What’s important for present purposes, however, is that, were it not for these shortcomings, the approach would provide a neat account of what makes MCI true of our language despite the mismatch between the semantics and our intuitive judgements.

The problem Gerken faces is that he cannot account for the truth of MCI in similar fashion. The availability-based approach posits a psychological bias to explain our MCI-unfriendly judgements while *also* implying that we’re disposed to apply a consistently moderate standard. The latter claim underpins the truth of MCI; the former accounts for the mismatch. Gerken also posits a psychological bias to explain our MCI-unfriendly judgements. But the bias he posits implies that we are not disposed to apply any consistent epistemic standard at all. Applying a consistent standard means, in the language of relevant alternatives, judging salient alternatives to be relevant only if the risk of error they pose equals or exceeds some invariant level. If we are disposed to equate salient alternatives with relevant alternatives, as Gerken hypothesizes, the epistemic standard to be met in particular cases will be determined by the lowest level of risk posed by the salient alternatives (the lower the risk, the higher the standard). And that will vary from case to case. This puts Gerken’s defense of MCI in danger of incoherence. Gerken’s strategy seems to be to suppose that MCI is true and look to cognitive psychology for hypotheses to explain why we may in practice apply varying standards not a consistently moderate standard.[[10]](#footnote-10) The problem is, affirming that we’re disposed to apply varying standards seems tantamount to affirming that our knowledge judgements don’t reflect the semantics of MCI *at all*. But in that case, the initial supposition that MCI is true of our language seems to be undermined.

It’s hard to see how MCI can be true of our language if it isn’t reflected in our linguistic dispositions. I end this section by considering two possible responses to this criticism of Gerken’s approach.

The first response is an attempted quick dismissal of the problem. It might be felt that there must be something wrong with my argument because there are plenty of other cases where ordinary speakers make judgements that don’t align with what the relevant standard semantic theories dictate, yet nobody seriously doubts the standard theories on that account. For example, consider how often people deny the antecedent or affirm that consequent. Nobody takes this to tell against the standard account of “validity”. Or consider how often people make bad judgements about probability, for instance, in cases like the Linda conjunction fallacy or the base-rate fallacy. Nobody thinks this tells against standard probability theory. So, why think that MCI is impugned by the fact that people commonly judge contrary MCI?

The problem with this complaint is that in the kinds of cases described involving validity and probability, when the “error” is spelt out to them, people will usually revise their judgements in ways that suggest they were trying to judge according to the standard theories all along. Take cases of denying the antecedent. According to the standard account of “valid”, the argument in question would not be valid because it’s possible for the premises to be true and the conclusion false. But we don’t find people who deny the antecedent insisting that the argument is valid *despite* it being possible for the premises to be true and the conclusion false. That would suggest an alternative understanding of “valid”. Instead, we typically find that the subjects didn’t spot that the conclusion could still be false when the premises are true. When the coin drops on this point, the judgement that the argument is valid is retracted—precisely what we’d expect of somebody following the standard semantics for “valid”. Similar points apply with fallacies about probability. (For instance, we don’t find people insisting that by their understanding of “probable”, a conjunction *can* be more probable than one of its conjuncts—which would suggest a non-standard understanding of “probable”.) So, these cases serve to underline the plausibility of the standard semantics. That may be why nobody thinks they call the standard semantics into doubt.

The situation with MCI is different. When people notice that their judgements about examples like the bank cases conflict with MCI, they are often surprised and puzzled. But, there doesn’t seem to be an overwhelming tendency to retract the original judgements and accept that they must have made a mistake. If there were, the case-pairs wouldn’t pose a threat to MCI any more than the widespread tendency to deny the antecedent poses a threat to the standard semantics for “valid”. Instead what we find is a fairly robust tendency for people to defend the original judgements and question MCI—certainly among philosophers and students of philosophy. This is why defenders of MCI owe a credible response to the judgements while defenders of the standard approaches to “valid” and “probable”, in the kinds of cases mentioned above, do not. Gerken attempts to provide a credible response. But his response runs into the problem described above.

The second response to that problem attempts to defend Gerken’s theory by acknowledging the difficulty raised and tackling it head on. The difficulty was that if MCI isn’t reflected in our dispositions, then it’s hard to see what could make it true of our language. This second response argues that although our linguistic dispositions seem not to reflect MCI on account of the focal bias and cognitive illusions etc. said to be in operation when we make knowledge judgements, our linguistic dispositions *do* in fact reflect MCI, albeit at a deeper level. Consider a vase protected by bubble wrap. The vase is fragile and so disposed to break when dropped. When it’s safe inside the bubble wrap, though, that disposition is masked: the vase won’t break when dropped because it is protected. But it still *has* the disposition to break when dropped. Similarly, it might be contended that we are in fact disposed to apply the moderate standard of MCI, but that disposition is constantly masked by the interfering influence of the focal bias and cognitive illusions etc. If we could only strip off this bubble wrap, as it were, we *would* judge in accordance with the standard dictated by MCI.

This response grants, then, that MCI should be reflected in our dispositions if it is to plausibly be said to be true of our language. And it posits a masked disposition which *does* reflect MCI. The obvious objection though is that this looks extremely *ad hoc*. What reason is there to accept the additional hypothesis about a masked linguistic disposition? So far, Gerken has posited hypotheses tailored to explain our disposition to apply *varying* standards. These hypotheses are similar to those posited by cognitive psychologists to explain other judgements we make and so are psychologically plausible for that reason. Now a further hypothesis is being invoked, one that introduces a deeper-level disposition to apply a *consistently moderate* standard. But more work would be needed to make *this* hypothesis plausible. If it is invoked solely to rescue a cherished theory (MCI), the move will not be persuasive.

Could there be good reasons to posit a masked disposition which conforms with MCI and would thereby rescue Gerken’s approach? I don’t have an argument ready to show that there *couldn’t* be good reasons. And there isn’t space to explore the question at length here. So, I will settle for drawing the conclusion that Gerken’s approach *currently* faces a difficult problem. The psychological picture he paints to defend MCI suggests that we are not disposed to apply a consistently moderate standard for knowledge. If our linguistic dispositions do not reflect the semantics of MCI, however, it’s hard to see how MCI could nonetheless be true of our language. So, Gerken needs to either show how MCI can be true despite it not being reflected in our dispositions (a tall order, I suggest) or make the case for positing a masked disposition which does reflect MCI.[[11]](#footnote-11)

**§4 Adaptive Invariantism**

Jennifer Nagel (2010b)[[12]](#footnote-12) offers a very different strategy to defend MCI. She claims the “shifty intuitions” actually *conform* to MCI, contrary to first appearances. If that’s right, worries about what makes MCI true of our language will subside.

From cognitive psychology, Nagel takes the idea that in a practical context features of our concrete situation can automatically trigger a desire for increased cognitive activity, which she terms “epistemic anxiety”. Perceived high stakes, for instance, will usually trigger a desire to gather more evidence and weigh it more thoroughly before making up our minds on the matter in question. This will typically make us more reliable. But in particular cases the value of increased reliability will be weighed against its cost in time and effort as well as against any need to decide quickly or to attend to other things. This makes our epistemic behavior *adaptive*: we can vary epistemic strategy in response to varying epistemic anxiety and factor in other desires so that our epistemic behavior is integrated with our other practical pursuits.

A normal effect of increased epistemic anxiety is that a subject will not form an outright belief in the same way that she otherwise would. Take the bank cases. In LOW STAKES, Hannah would not, presumably, experience high epistemic anxiety. She forms her outright belief that the bank will be open Saturday based primarily on her memory of having been there on a Saturday recently. In HIGH STAKES, however, the perceived costs of being wrong would trigger increased epistemic anxiety. Normal belief formation would preclude believing outright on the basis that sufficed in LOW STAKES—additional cognitive effort would be required first.

Nagel argues that this can explain Hannah’s lack of knowledge in HIGH STAKES. The perceived high stakes cause epistemic anxiety. Since Hannah has not increased cognitive effort, it’s natural to interpret her as still in the making-up-her-mind stage. Hence, she doesn’t know simply because she doesn’t believe. There’s no need to posit any shift in standard of knowledge.[[13]](#footnote-13)

What if we vary the case slightly and suppose that despite the perceived high stakes Hannah does believe outright that the bank will be open. If Hannah didn’t know in the original case simply because she didn’t believe, wouldn’t this imply that she *does* know in this variation? That doesn’t seem right.

Nagel agrees that this doesn’t seem right and again seeks to accommodate the intuition consistently with MCI. She argues that believing the bank will be open here *without* increasing cognitive effort in response to her epistemic anxiety would *compromise* Hannah’s belief, rather like in cases of wishful thinking. Thus, Nagel urges, Hannah’s belief won’t meet the invariant moderate standard of MCI and, so, Hannah doesn’t know.

Fantl and McGrath (2009) take issue with this argument. They envisage Hannah continuing to believe the bank will be open in face of the perceived high stakes “without a second thought” and to the “amazement and frustration” of her friend, Sarah (2009: p.45).[[14]](#footnote-14) But they point out that compared with LOW STAKES, Hannah’s belief would be based on “exactly the same methods” (namely, her memory—of being at the bank on Saturday recently), the methods would be “equally reliable”, and she would have formed her belief “no more hastily and with no more bias” (2009: p.45). Hence, they urge that Hannah’s strength of epistemic position should be just as good as in LOW STAKES. Therefore, if the epistemic standards haven’t changed, as Nagel believes, Hannah should still know. (Their own view is that Hannah doesn’t know not because her epistemic position has weakened but because the standards have gone up.) Perhaps, they suggest, Nagel’s claim might be that it’s the tendency not to use *different* methods in this case that’s somehow “epistemically vicious” (2009: p.46). But if this disposition prevents Hannah from knowing, it should do so in LOW STAKES since she will still have that disposition then. Besides, if Hannah uses the same methods she used in LOW STAKES and those methods are just as reliable here, then since the methods sufficed for knowledge in LOW STAKES why should *not* *changing* methods “pose an obstacle to knowing” now (i.e., if the standards are constant)?

Fantl and McGrath’s criticism is based on the thought that Hannah’s strength of epistemic position should be the same as in LOW STAKES roughly because her belief is based on the same memory and her memory is functioning just as reliably.[[15]](#footnote-15) But, consider the following example. Suppose that I believe (correctly) that my neighbor’s door is green based on my reliably functioning memory of seeing her paint it green last week. Ordinarily, this would suffice for *knowing* the door is green. But suppose I now look at the door and it appears plainly orange (owing to some convincing illusion). If, without a second thought, I go on believing the door is green on the original basis, my epistemic position is surely weakened despite my memory still functioning reliably. I give too much weight to memory here and not enough to current experiences which call the belief into doubt. What I should do is reappraise my belief in light of how things now appear. Hence, *the way I* *regulate my beliefs* is unreliable here; it could easily have led to error.[[16]](#footnote-16) (The fact that appearances happen to be deceptive doesn’t save my epistemic position from weakening because the deception is something I have no reason to suspect.)

The point of the example, then, is that it’s certainly *possible* for Hannah’s epistemic position to weaken while her belief continues to be held on the same basis as in LOW STAKES and her memory continues to be just as reliable. However, Hannah’s case is very different from the green door example. What’s needed is a reason why her epistemic position is supposed to be weakened in HIGH STAKES.

Nagel’s answer seems to be this: Hannah’s epistemic position weakens because she *ignores her epistemic anxiety*. For Nagel, “High epistemic anxiety is a signal that the task of settling the question *whether p* on the basis of evidence will take significant effort.” (2010b: p.416) Hannah’s anxiety is a *psychological alarm* signalling that her belief may not be well founded. This should prompt Hannah to reappraise her belief. If she just goes on believing the bank will be open “without a second thought”, as Fantl and McGrath put it, then (the argument would go) the way she regulates her beliefs is unreliable; it could easily have led to error. After all, epistemic anxiety can be triggered by factors which make one’s belief less probable. That happens not to be the case here since Hannah’s anxiety is triggered by non-truth-relevant factors. But having given the matter no thought, Hannah isn’t in a position to appreciate this.[[17]](#footnote-17)

Fantl and McGrath (2009: p.45) contend that Hannah is just as cautious in this example as in LOW STAKES. But it’s hard to square that with the idea that she ignores epistemic anxiety without a second thought. Fantl and McGrath don’t explain why ignoring epistemic anxiety isn’t incautious nor why it doesn’t weaken Hannah’s epistemic position; they simply don’t address these issues. But to decide whether Nagel’s position on this example is feasible, the question of how ignoring epistemic anxiety affects one’s reliability should be tackled. Her view that Hannah’s strength of epistemic position is weakened cannot be discredited just by pointing out that Hannah’s belief is still based on a reliably functioning memory.

So, *does* ignoring her epistemic anxiety weaken Hannah’s epistemic position, as Nagel supposes? I won’t attempt to settle this here. If the answer is “no”, then at least we have a better appreciation of where Nagel’s argument falls down. What’s important for current purposes, however, is that even if the answer is “yes”, Nagel’s attempt to reconcile the shifty intuitions with MCI falls down anyway on the *next* example.[[18]](#footnote-18)

The next example is a final variation on HIGH STAKES. As before, Hannah experiences epistemic anxiety triggered by her friend’s comments about the stakes etc. This time, instead of blithely ignoring her anxiety, she engages with it by increasing cognitive effort and reasoning further about her situation as follows:

It’s true that there’s a lot at stake. But that’s irrelevant to whether I know the bank will be open. I do have a good basis for my belief that it will be open since I remember being there on a Saturday recently. And while the bank could have changed its hours, that’s extremely unlikely. Let’s not get paranoid here; there really isn’t any need to go and check the hours haven’t changed. I *do* know the bank will be open tomorrow, so let’s head home!

By the lights of MCI, this reasoning is good reasoning. According to that theory, the high stakes and the error-possibilities considered don’t affect the likelihood that the bank will be open. Nor do they push the standard for knowledge upwards. What’s more, Hannah’s belief that the bank will be open is not compromised here as Nagel claims it was in the previous example. Hannah hasn’t ignored her anxiety. She has identified what’s triggering it and concluded—again, rightly by the lights of MCI—that the triggers don’t tell against her having knowledge. Thus, in this case, it looks as though Nagel is committed to saying that Hannah *does* know the bank will be open on Saturday (indeed, in places Nagel seems to suggest Hannah is entitled to respond to her anxiety this way (e.g., 2010b, p.422.))

Why is this a problem? It’s a problem because, plausibly, the shifty intuition about HIGH STAKES is that Hannah needs to gain *new and stronger evidence* to know that the bank will be open. I.e., the intuition is not that Hannah doesn’t know but could know if she thought a bit more carefully. The intuition is that knowledge in this context requires gathering more evidence, e.g., by going into the bank. If Nagel’s defense of MCI does not respect that idea, then she is ultimately conceding that at least one of the shifty intuitions is mistaken. In other words, she’s conceding that adaptive invariantism *doesn’t* show the shifty intuitions are fully consistent with MCI, and that runs contrary to her expressed aim.[[19]](#footnote-19)

This leaves Nagel with a trilemma. She could attempt to show that the intuition just mentioned *does* fit with MCI after all. If this could be done (which I doubt) it would fulfil her promise to show that the shifty intuitions fit with MCI. But since her arguments don’t show this, she’d need to provide *more arguments*. Second, Nagel could concede that the intuition doesn’t fit with MCI but deny that we really have this “intuition” at all. This would also fulfil her promise to show that the shifty intuitions (the ones we really do have) fit with MCI. But more arguments would be required again to make this case. Alternatively, Nagel could grant the intuition exists and accept that it doesn’t fit with MCI. She might then claim that adaptive invariantism accommodates enough of the intuitions to motivate revising this one. She might offer other reasons to think the intuition is erroneous too. But, again, more arguments are needed to make such a case. Hence, what we’ve shown is that Nagel’s adaptive invariantism doesn’t fulfil her aim of reconciling the shifty intuitions with MCI and needs supplementing with more arguments.[[20]](#footnote-20)

**§6 Conclusions**

I have argued that the most prominent attempts to defend MCI by appeal to cognitive psychology are unsuccessful albeit for very different reasons. Gerken’s approach offers explanations of MCI-unfriendly judgements but doesn’t explain what makes MCI true of our language and makes it difficult to see how it could be true given the psychological picture he paints. Nagel’s approach is to show that our shifty intuitions are actually consistent with MCI. But we found that key features of those intuitions remain unaccommodated.[[21]](#footnote-21)

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Bach, K. 2005 “The Emperor’s New ‘Knows’”, in G. Peter and G. Preyer (eds.), *Contextualism in Philosophy: Knowledge, Meaning and Truth*, (New York: OUP), pp.51-89

Boyd, K. & Nagel, J 2014 “The Reliability of Epistemic Intuitions” in Edouard Machery and Elizabeth O’Neill (Eds.), *Current Controversies in Experimental Philosophy*, (Oxford: Routledge), pp.109-127

Cohen, S. 1999 “Contextualism, Skepticism, and the Structure of Reasons”, *Philosophical Perspectives*, vol.13, pp.57–89

DeRose, K. 1992 “Contextualism and Knowledge Attributions”, *Philosophy and Phenomenological Research*, vol.52, pp.913–29

DeRose, K. 2009 *The Case for Contextualism,* (Oxford: OUP)

DeRose, K. 2011 “Contextualism, Contrastivism and X-Phi Surveys, *Philosophical Studies*, vol.156, pp.81-110

Dretske, F.1970 “Epistemic Operators”, *Journal of Philosophy*, vol.67, pp.1007–23.

Evans, J. 2006 “The Heuristic–Analytic Theory of Reasoning: Extension and Evaluation,” Psychonomic Bulletin and Review, vol.13, pp.378–95

Fantl, J. and McGrath, M. 2002 “Evidence, Pragmatics, and Justification”, *Philosophical Review*, vol.111, pp.67–94

Fantl, J. and McGrath, M. 2009 *Knowledge in an Uncertain World*, (Oxford: OUP)

Gerken, M. 2012 [“On the Cognitive Bases of Knowledge Ascriptions”](https://philpapers.org/rec/GEROTC-3), in Jessica Brown & Mikkel Gerken (eds.), [*Knowledge Ascriptions*](https://philpapers.org/rec/BROKA), (Oxford: OUP), pp.140-70

Gerken, M. 2013 [“Epistemic Focal Bias”](https://philpapers.org/rec/GEREFB) Australasian Journal of Philosophy, vol.91, pp.41-61

Gerken, M. 2017 *On Folk Epistemology: How We Think and Talk about Knowledge*, (Oxford: OUP)

Goldman, A. 1976 “Discrimination and Perceptual Knowledge”, *Journal of Philosophy*, vol.73, pp.771–91

Hawthorne, J. 2004 *Knowledge and Lotteries*, (Oxford: OUP)

MacFarlane, J. 2005 “The Assessment Sensitivity of Knowledge Attributions”, *Oxford Studies in Epistemology*, vol.1, pp.197–233

Mortensen, K and Nagel, J. 2016 “Armchair-Friendly Experimental Philosophy” in Justin Sytsma and Wesley Buckwalter (Eds.) *A Companion to Experimental Philosophy*, (Malden, MA: Wiley-Blackwell), pp.53-70

Nagel, J. 2008 “Knowledge ascriptions and the psychological consequences of changing stakes”, *Australasian Journal of Philosophy*, vol.86, pp.279–294

Nagel, J. 2010a “Knowledge Ascriptions and the Psychological Consequences of Thinking About Error”, *Philosophical Quarterly*, vol.60, pp.286–306

Nagel, J. 2010b “Epistemic Anxiety and Adaptive Invariantism”, *Philosophical Perspectives*, vol.24, pp.407-435

Oppenheimer, D.M. 2004 “Spontaneous Discounting of Availability in Frequency Judgment Tasks”, Psychological Science, vol.15, pp.100-5

Pinillos, Á., & Simpson, S. 2014 “Experimental evidence supporting anti-intellectualism about knowledge”, in J. Beebee (Ed.), *Advances in experimental epistemology*, (London: Bloomsbury), pp. 9-43

Rose, D. *et al* 2017 “Nothing at Stake in Knowledge”, *Nous*, DOI: 10.1111/nous.12211

Sripada, C., & Stanley, J. 2012 “Empirical Tests of Interest-Relative Invariantism”, *Episteme* vol.9, pp.3–26.

Stanley, J. 2005 *Knowledge and Practical Interests,* (Oxford: OUP)

Stanovich, K., West, R. and Toplak, M. 2011 “Individual Differences as Essential Components of Heuristics and Biases Research”, in K. Manktelow, D. Over and S. Elqayam (eds.), The Science of Reason (New York: Psychology Press), pp.355–96

Turri, J. 2017 “Epistemic contextualism: An idle hypothesis”, *Australasian Journal of Philosophy* vol.95, pp.141-156.

Tversky, A. and Kahneman, D. “Availability: a Heuristic for Judging Frequency and Probability”, *Cognitive Psychology*, vol.5, pp.207-32

Williamson, T., 2005 “Contextualism, Subject-Sensitive Invariantism, and Knowledge of Knowledge”, *Philosophical Quarterly*, vol.55, pp.213–35

1. For instance, contextualists (e.g., Cohen 1999, and DeRose 1992) and subject sensitive invariantists (e.g., Fantl and McGrath 2002, Hawthorne 2004, and Stanley 2005) do. See also relativists (e.g., MacFarlane, 2005). [↑](#footnote-ref-1)
2. Some experimental philosophers question whether ordinary folk have the alleged shifty intuitions (e.g., Rose *et al* (2017) and Turri (2016)). Others report contrary evidence (e.g., Sripada and Stanley (2012) and Pinnillos and Simpson (2014)). Moreover, there are questions about whether the surveys used in these studies are appropriate means for probing folk’s intuitions and also about whether folk intuitions are as reliable as those of philosophers who have thought more carefully about the issues (DeRose (2011), Nagel (2014, 2016)). For present purposes, I set aside these concerns about the intuitions and focus on whether Gerken’s and Nagel’s attempts to defend MCI in light of the intuitions succeed. [↑](#footnote-ref-2)
3. The version described here is closer to Stanley’s (2005). [↑](#footnote-ref-3)
4. Gerken and Nagel, whose responses to these kinds of intuitions are to be considered, both prefer to treat stakes and salient error possibilities separately. My arguments below target their appeals to psychology, however, and won’t trade on this feature of DeRose’s bank cases. [↑](#footnote-ref-4)
5. See Evans (2006) for details. [↑](#footnote-ref-5)
6. The disjunctive insight problem is an illustrative example (Gerken, 2012, pp.164-5). [↑](#footnote-ref-6)
7. Note, however, that mastery of the distinction still would not necessarily lead somebody to judge in-line with MCI. Somebody who masters and deploys the distinction in thinking about HIGH STAKES might still judge that Hannah doesn’t know if she is persuaded that the salient alternative *is* epistemically relevant. [↑](#footnote-ref-7)
8. Hawthorne (2004, pp.164) appealed to the heuristic while defending subject sensitive invariantism. Both cite the work of cognitive psychologists Tversky and Kahneman (1973). [↑](#footnote-ref-8)
9. Oppenheimer (2004). [↑](#footnote-ref-9)
10. Gerken (2012, p.141) points out that we tend to dismiss far-fetched salient alternatives as epistemically irrelevant. E.g., the possibility that the matter making up my car has spontaneously rearranged in the form of a giant lizard is judged intuitively not to undermine my knowledge that my car is parked outside (MacFarlane, 2005). But this doesn’t show that we are disposed to apply a consistently moderate standard (and Gerken doesn’t claim otherwise). For one thing, a skilled sceptic might succeed in changing our verdict even in this case. But, more importantly, we are still left with the enormous range of examples in which, by Gerken’s lights, we have a fairly robust disposition to apply high standards. [↑](#footnote-ref-10)
11. In addition to his strategy of appealing to cognitive psychology, Gerken also appeals to pragmatics, especially in relation to high stakes cases (2017, ch.12). Does this second strategy provide any help here? There isn’t space to explore Gerken’s pragmatic strategy. But I would claim that it does *not* help for the simple reason that it leaves untouched the problematic result of his psychological strategy: that we are not disposed to apply a consistently moderate standard. [↑](#footnote-ref-11)
12. See also her (2008) and (2010a). [↑](#footnote-ref-12)
13. Nagel builds on ideas of Bach (2005) here. [↑](#footnote-ref-13)
14. Their version features different protagonists. [↑](#footnote-ref-14)
15. More accurately, the belief is based on the same memory, background assumptions, and inferences etc. and none of these factors differ between the cases. [↑](#footnote-ref-15)
16. The point could be expressed in terms of justification rather than reliability (as some might prefer). By ignoring my current experiences, my justification for believing the door is green goes down, weakening my epistemic position. [↑](#footnote-ref-16)
17. Again, the point could be made in terms of justification rather than reliability (she is less justified in believing the bank will be open since she ignores her epistemic anxiety on that matter). [↑](#footnote-ref-17)
18. Fantl and McGrath also contend that if Hannah’s tendency not to change methods (read: reappraise her beliefs appropriately) in this example means she doesn’t know the bank will be open, we’d have to say she doesn’t know in LOW STAKES too since she would have the same disposition (albeit unmanifested). But this doesn’t follow. LOW STAKES leaves open whether Hannah has a disposition not to reappraise her beliefs when feeling epistemic anxiety. Provided she does not, the way is clear for her to know. Plus, if she *did* have such a disposition, it would be less obvious that she would know in LOW STAKES. [↑](#footnote-ref-18)
19. Could this be the point Fantl and McGrath were aiming for? Their variation on HIGH STAKES had Hannah (Keith in their version) continue believing the bank will be open “without a second thought” rather than after reasoning through the circumstances. Perhaps they could be read as supposing that Hannah can dismiss her epistemic anxiety automatically *if she already appreciates that high stakes make no difference to the likelihood that the bank will be open*. That idea would raise the same kind of problem for Nagel. But it doesn’t seem to be present in their text. [↑](#footnote-ref-19)
20. Nagel’s epistemic anxiety idea may actually play into the hands of shifty epistemologies. On her view, the role of epistemic anxiety is to cause one to increase cognitive effort when one’s epistemic position may not be strong enough for knowledge. But, given MCI, we’d have to conclude that epistemic anxiety often *misfires*, causing one to increase cognitive effort in response factors like high stakes which, according to MCI, have no bearing on whether one’s epistemic position suffices for knowledge. Shifty epistemologies can explain why high stakes trigger epistemic anxiety in these cases more comfortably. On such theories, high stakes push the standard for knowledge upwards. Consequently, when the stakes go up, one may have to strengthen one’s epistemic position by gathering more evidence to meet the new standard for knowledge. The epistemic anxiety isn’t misfiring; it’s still playing an important role. Thanks to an anonymous reviewer for pressing this point. [↑](#footnote-ref-20)
21. Thanks to audiences at the Science and Philosophy Reading Circle at the Petroleum Institute in Abu Dhabi, PHILO-SOFIA: 125 years of philosophy in Bulgaria at Sofia University, and the Korean Association for Logic meeting at Ehwa University who attended presentations of drafts of this paper. Special thanks to Phillip Meadows, Nikolaj Pedersen, and anonymous referees for very helpful comments. [↑](#footnote-ref-21)